

PROCEEDINGS
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A CHECK LIST OF THE FRESHWATER FISHES OF
CANADA.

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While studying two small collections of freshwater fishes obtained in Canada in 1900 and 1903 by Mr. E. A. Preble, of the U. S. Biological Survey, one made by Mr. A. J. Woolman in the Lake of the Woods in 1894, and another by the senior author in the Kootenay Lake region in 1898 (all now deposited in the U. S. National Museum), much of the literature pertaining to the freshwater fishes of Canada and their distribution was gone over. In order that the results of this labor may be preserved and a like labor saved others interested in the freshwater fishes of Canada it seemed desirable to pursue the work further and make as complete a check-list and bibliography of the freshwater fishes of Canada as the literature obtainable would permit. It is not claimed that either the bibliography or the list is entirely complete, but all the available literature has been consulted and it is believed the list given contains practically all the published references to the freshwater fishes of Canadian waters. Many of the works consulted are of a popular nature and the locality references are frequently indefinite, river basins or streams instead of definite places being given. Such general references, as a rule, have been omitted.

The anadromous fishes, such as the salmons, have been listed only when they were reported from freshwater localities. The

collection made by Mr. Woolman in 1894 is referred to in the list as (Woolman, coll., 1894) that by Dr. Evermann as (Evermann, coll., 1898) and those by Mr. Preble as (Preble, coll., 1900) and (Preble, coll., 1903-4). Mr. Preble collected in 1900 along the shores and in the barren lands to the west and northwest of Hudson Bay. In this region he obtained 9 species, 8 of which are freshwater species. In 1903-4 he collected in the Mackenzie River basin as far north as Fort McPherson, about 100 miles from its mouth. In this region he got 8 species, all of which are freshwater species.

In the following list we give, under each species, all the Canadian localities from which it has been recorded, together with references to the publications in which such records were made. These references can be fully understood by an examination of the Bibliography (pp. 114-119).

From this list it is seen that the freshwater fish-fauna of Canada as now understood consists of 145 species representing 25 families and 67 genera.

The most important families, or those represented by the greatest number of species, are the Cyprinidæ with 33 species, the Salmonidæ with 28, Catostomidæ 13, Cottidæ 12 and Percidæ 12.

The species of greatest commercial importance are, of course, the salmon, whitefish and lake trout; the ones of greatest interest to the angler are the common speckled trout, the ouananiche and the Atlantic salmon.

Vernacular names are given in most cases; those in quotation marks are those commonly in use in Canada.

The territory covered by this paper is all of Canada or British North America, that is, all of North America north of the United States except Alaska.

ANNOTATED LIST OF SPECIES.

FAMILY PETROMYZONIDÆ.

1. *Ichthyomyzon concolor* (Kirkland). Silver Lamprey.

St. Lawrence River below Quebec (Fortin 1863, as *Petromyzon*), and Hill River (Preble, coll., 1900).

2. *Ichthyomyzon castaneus* Girard. Northern Lamprey.

Assiniboine River in slough at Portage la Prairie (Thompson 1898).

3. **Lampetra cibaria** (Girard).

British Columbia (Günther 1870, as *Petromyzon ayresii*, type).

4. **Lampetra aurea** (Bean).

Great Slave Lake (Richardson 1836, as *Petromyzon fluviialis*), adhering to an Incomu. Girard (1858) made this specimen the type of a new species which he called *P. borealis*. The proper identification of the specimen is uncertain; it is probably the same as *L. aurea*.

FAMILY ACIPENSERIDÆ.

5. **Acipenser transmontanus** Richardson. White Sturgeon.

Reported by Richardson (1836) from Pine Island Lake and Saskatchewan and Columbia rivers; Fraser River (Jordan & Gilbert 1881).

6. **Acipenser sturio** Linnæus. Common Sturgeon.

Rivers St. John and Oromocto and Grand Lake, N. B. (Perley 1852, as *Acipenser oxyrinchus*); St. Lawrence River and tributaries (Fortin 1863 and 1864, as *Acipenser oxyrinchus*); Red River of the North at Winnipeg and in the lakes to the north (Eigenmann 1894).

7. **Acipenser rubicundus** Le Sueur. Great Lakes Sturgeon.

Lakes Ontario, Erie and Huron (Richardson 1836); Albany River District (Richardson 1836, as *Acipenser rupertianus*, type); Moose Factory, Hudson Bay (Walton Hayden, Coll., Bean 1881, as *Acipenser maculosus*); in great numbers in Saskatchewan, Red, Assiniboine and Winnipeg rivers, "the most important food-fish in the Lake of the Woods" (Thompson 1898); St. Lawrence River below Ogdensburg (Evermann and Kendall 1902).

8. **Acipenser brevirostris** Le Sueur. Short-nosed Sturgeon.

River St. Lawrence and streams flowing into it (Fortin 1864, as "Short-nosed Sturgeon (Le Sueur)").

FAMILY LEPISOSTEIDÆ.

9. **Lepisosteus osseus** (Linnæus). Long-nosed Gar.

Lake Huron at Penetanguishene (Richardson 1836, as *Lepisosteus huronensis*, type); Lake St. Peter near Sorel and River St. Lawrence below Quebec (Fortin 1864, as *Lepisosteus longirostris*); and Bay of Quinte (Halkett 1903).

FAMILY AMIIDÆ.

10. **Amia calva** Linnæus. Bowfin.

Lake Huron (Richardson 1836, as *Amia ocellicauda*, type); near Sorel in St. Lawrence River (Fortin 1865, as *Amia ocellicauda*); Lake St. Peter (Montpetit 1897, as Le Poisson-castor); Bay of Quinte (Halkett 1903); at the head of Lake Deux-Montagnes (Desrochers 1904, as *Amia ocellicaudata*).

FAMILY SILURIDÆ.

11. **Ictalurus punctatus** (Rafinesque). Spotted Catfish.

St. Catharines, Ontario (Gill 1858, as *Synechoglanis beadlei*, type); Red River of the North at Winnipeg (Eigenmann 1894); abundant in the Red River at Winnipeg (Thompson 1898).

12. **Ameiurus lacustris** (Walbaum). Great Lakes Catfish; "Mathemeg."

Hudson Bay (Pennant 1788, as *Mathemeg*); Hudson Bay (Walbaum 1792, as *Gadus lacustris*, type); Lakes Erie and Ontario (Richardson 1836, as *Silurus (Pimelodus) nigrescens*); Pine Island Lake and Saskatchewan River (Richardson 1836, as *Silurus (Pimelodus) borealis*, type); "In all ponds and streams where the yellow and white perch is taken, *fide* Perley" (Cox 1895a); Basin of River St. Lawrence, sources of the St. Leon. and the Ottawa River (Montpetit 1897, as *Ictalurus nigrescens*); Saskatchewan River, Lake Winnipeg and the small lakes connected with it (Thompson 1898); St. Lawrence River below Ogdensburg (Evermann and Kendall 1902).

13. **Ameiurus natalis** (Le Sueur). Yellow Cat.

Lake Huron at Penetanguishene (Richardson 1836, as *Silurus (Pimelodus) canosus*, type); Lakes Sugarbush, Bevin and Bark (D'Urban 1859, as *Pimelodus canosus*).

14. **Ameiurus vulgaris** (Thompson). Catfish.

Red River at Winnipeg (Thompson 1898).

15. **Ameiurus nebulosus** (Le Sueur). Common Bullhead.

Lakes that flow into the Saskatchewan and lakes and rivers to the southward (Richardson 1823, as *Silurus felis*); River St. Lawrence (Fortin 1865, as *Pimelodus nebulosus*); Gull and Muskoka lakes (Meek 1899); Glasier Lake, New Brunswick (Kendall, coll., 1901).

FAMILY CATOSTOMIDÆ.

16. **Ictiobus cyprinella** (Cuvier & Valenciennes). Common Buffalo-fish.

Red River of the North at Winnipeg (Eigenmann 1894); Winnipeg (Thompson 1898).

17. **Carpiodes thompsoni** Agassiz. Lake Carp Sucker.

Lake of the Woods at Stevens Point (Woolman, coll., 1894).

18. **Carpiodes velifer** (Rafinesque). Quillback.

Red River of the North at Winnipeg, Assiniboine River at Brandon, and Saskatchewan River at Medicine Hat (Eigenmann 1894); Winnipeg and Brandon (Thompson 1898).

19. **Catostomus griseus** (Girard). Gray Sucker.

Reported by Eigenmann (1894) from Swift Current River at Swift Current and Saskatchewan River at Medicine Hat.

20. **Catostomus catostomus** (Forster). Northern Sucker.

Hudson Bay (Forster 1773, as *Cyprinus catostomus*, type); Hudson Bay (Pennant 1788, as *Cyprinus catostomus*); Saskatchewan River at Cumberland House (Richardson 1836, as *Cyprinus (Catostomus) hudsonius*); Lake Huron and Great Slave Lake (Richardson 1836, as *Cyprinus (Catostomus) forsterianus*, type); Pie River and along the northern shores of Lake Superior (Agassiz 1850, as *Catostomus aurora*, type); St. Lawrence and its tributaries (Fortin 1865, as *Cyprinus catostomus* and *Catostomus forsterianus*); Fort Halket and Albany River (Sir J. Richardson, coll., Günther 1868, as *Catostomus hudsonius*); Skiff Lake, New Brunswick (Adams 1873, as *Catostomus longirostris*); River St. Lawrence and all its tributaries (Fortin 1863, as *Catostomus communis*); Red River of the North at Winnipeg, Swift Current River at Swift Current, Saskatchewan River at Medicine Hat, Bow and Elbow River at Calgary, Bow and Vermillion rivers at Banff, Columbia River at Golden and Revelstoke, and Kicking Horse River at Golden (Eigenmann 1894); Upper St. John River and Madawaska and Tuladi lakes (Cox 1895, as *Catostomus longirostris*); "Common in rivers and lakes throughout the interior (Labrador) and the principal food of the Indians in many parts of Labrador" (Low 1896, as *Catostomus longirostris* and *Catostomus forsterianus*); Hamilton River above the Great Falls (Chambers 1896, as red sucking carp); Winnipeg and mouth of the Souris River (Thompson 1898); Kootenay Lake, at Nelson, B. C. (Evermann, coll., 1898); Hayes River 15 miles above York Factory (Preble, coll., 1900); Glasier Lake, New Brunswick (Kendall 1903); stream near Great Bear Lake and stream near Fort Good Hope (Preble, coll., 1903-4); Watson River at Caribou Crossing, B. C., (Evermann and Goldsborough 1907).

21. **Catostomus nigricans** Le Sueur. Black Sucker; Hog Sucker.

Lake of the Woods at Rat Portage, off Coney Island, and Stevens Point and Oak Island (Woolman, coll., 1894).

22. **Catostomus macrocheilus** Girard. Columbia River Sucker.

Shushwap Lake at Sicamous and Thompson River at Kamloops (Eigenmann 1894); Kootenay Lake, Nelson, B. C. (Evermann, coll., 1898).

23. **Catostomus commersonii** (Lacépède). Common White Sucker.

Hudson Bay (Pennant 1788, as *Namapeth*); Albany River and Montreal and in Lake Madawaska (Günther 1868, as *Catostomus teves*); Red River of the North at Winnipeg, White Mud River at Westbourne, Qu'Appelle River at Qu'Appelle, Lacawana Creek at Regina, Moose Jaw River at Moose Jaw, Swift Current River at Swift Current, Maple Creek at Maple Creek, Saskatchewan River at Medicine Hat, and Bow and Elbow River at Calgary (Eigenmann 1894); Cape St. Ignace to Quebec (Montpetit 1897, as *Catostomus Bostoniensis*); Winnipeg, Westbourne, Qu'Appelle and mouth of Souris River (Thompson 1898); Grand Cascapedia, Little Cascapedia and Bonaventure rivers, P. Q., and in the Restigouche and Metapedia rivers, N. B. (Cox 1899); Gull Lake (Meek 1899);

Glazier Lake, New Brunswick (Kendall, coll., 1901); and Don River near Toronto (Nash 1906).

24. **Erimyzon sucetta oblongus** (Mitchill). Chub Sucker.

River St. Lawrence and its tributaries (Fortin 1865, as *Catostomus tuberculatus*); and small tributaries of lower St. John River (Cox 1895).

25. **Moxostoma anisurum** (Rafinesque). Redhorse.

Montreal (Günther 1868, as *Catostomus carpio*); Red River of the North at Winnipeg, and Assiniboine River at Brandon (Eigenmann 1894); Lake of the Woods at mouth of Rainy River (Woolman, coll., 1894); and Lake Winnipeg, Winnipeg and Brandon (Thompson 1898).

26. **Moxostoma aureolum** (Le Sueur). Redhorse.

Red River of the North at Winnipeg, White Mud River at Westbourne, and Assiniboine River at Brandon (Eigenmann 1894); Lake of the Woods at Oak Island (Woolman, coll., 1894); River St. Lawrence (Montpetit 1897); and Winnipeg, Westbourne and Brandon (Thompson 1898).

27. **Moxostoma macrolepidotum** (Le Sueur). Large-scaled Redhorse.

Pine Island Lake and Albany River (Günther 1868, as *Catostomus macrolepidotus*).

28. **Moxostoma lesueuri** (Richardson). Northern Redhorse.

Saskatchewan River at Carlton House and northward of Great Slave Lake (Richardson 1823, as *Catostomus lesueuri*, type); Pine Island Lake and Saskatchewan River at Cumberland House (Richardson 1836, as *Cyprinus (Catostomus) sueuri*); and Albany River District, Hudson Bay (Richardson 1836, as *Catostomus sueurii*).

FAMILY CYPRINIDÆ.

29. **Chrosomus erythrogaster** (Rafinesque). Red-bellied Dace.

Clear Lake, Lepreaux, St. Johns County, N. B. (Cox 1895); and pond near Golden Grove, 9 miles from St. John, N. B., a few small lakes in the valleys of the Grand and Little Cascapedia and from the Nouvelle lakes near New Carlisle, P. Q. (Cox 1899).

30. **Hybognathus nuchale** Agassiz. Silvery Minnow.

Red River of the North (Thompson 1898).

31. **Pimephales promelas** (Rafinesque). Bull Minnow.

Red River of the North at Winnipeg; Assiniboine River at Brandon, Qu'Appelle River at Qu'Appelle, White Mud River at Westbourne, Lacawana Creek at Regina, Swift Current River at Swift Current, Maple Creek at Maple Creek, and Saskatchewan River at Medicine Hat (Eigenmann 1894); Winnipeg, Westbourne, Brandon and Qu'Appelle (Thompson 1898).

32. **Pimephales notatus** (Rafinesque). Blunt-nosed Minnow.

Montreal (Baird, coll., 1853).

33. **Mylocheilus caurinus** (Richardson). Columbia River Chub.

Fraser River at Mission, Thompson River at Kamloops, Shushwap

Lake at Sicamous, Columbia River at Revelstoke and Golden, and Kicking Horse River at Golden (Eigenmann 1894).

34. **Semotilus bullaris** (Rafinesque). Fall Fish; "Ouitouche"; "Chub."

River St. John, the Miramichi at Boiestown, in the Hammond River and in every river and stream in New Brunswick and Nova Scotia (Perley 1852, as *Leuciscus cephalus*); small streams in Quebec (Baird, coll., 1853); "The most abundant fish in all the lakes and rivers throughout the district" [Valley of the Rouge River] (D'Urban 1859, as *Leuciscus pulchellus*); River St. Lawrence, Montreal and Quebec (Fortin 1865, as *Leuciscus canadensis*, type); small stream near Baring, New Brunswick (Kendall 1894); and "every river and stream" in New Brunswick (Cox 1895a, as *Semotilus corporalis*); feeders of the Kiskisink lakes, Peribonca River between Lakes St. John and Tschotagama (Chambers 1896); "in swift water eddies and pools in New Brunswick (Cox 1895a); Glasier Lake, New Brunswick (Kendall, coll., 1901).

35. **Semotilus atromaculatus** (Mitchill). Creek Chub.

River St. Lawrence and nearly all the rivers and streams running into it (Fortin 1865, as *Leuciscus atromaculatus*); Gull Lake (Meek 1899); Grand and Little Cascapedia and New Carlisle lakes, P. Q., and "common in all the waters of New Brunswick" (Cox 1899); and Don River near Toronto (Nash 1906).

36. **Ptychocheilus oregonensis** (Richardson). Squawfish.

Fraser River (Günther 1868, as *Leuciscus oregonensis*); and Thompson River at Kamloops and Shushwap Lake at Sicamous (Eigenmann 1894).

37. **Leuciscus balteatus** (Richardson). Columbia River Minnow.

Thompson River at Kamloops, Fraser River at Mission, Shushwap Lake at Sicamous, Griffin Lake at Griffin, Columbia River at Revelstoke, and Kicking Horse and Columbia rivers at Golden (Eigenmann 1894, as *Leuciscus balteatus lateralis*).

38. **Leuciscus elongatus** (Kirkland).

Don River near Toronto (Nash 1906).

39. **Leuciscus neogæus** (Cope).

Pond in Mangerville (Sunbury County, N. B.), Dark Lake (near St. John, N. B.), Garnetts Lake (near Loch Lomond), and pond near Anagance, Kings County, N. B. (Cox 1895, as *Phoxinus neogæus*); several small lakes near the mouth of the St. John (Dark Lake, Water-works Lake and McDonald Lake) and also in a small lake near New Carlisle, P. Q. (Cox 1899, as *Phoxinus neogæus*).

40. **Abramis crysoleucas** (Mitchill). Roach.

Lake Huron at Penetanguishene (Richardson 1836, as *Cyprinus (Leuciscus) chrysoleucas*); waters near Hampton Ferry, N. B. (Perley 1852, as *Leuciscus chrysoleucas*); small stream near Baring, New Brunswick (Kendall 1894, as *Notemigonus chrysoleucus*); reported by Cox (1895, as

Notemigonus chrysoleucas) from near Hampton Ferry; French Lake, Sudbury, and adjacent ponds and streams; Belleisle and Peabody Lake, Northumberland, N. B., and Gull Lake (Meek 1899); valley of the Grand Pabos, P. Q., in Lac à Canard and Murphy Lake and in Metapedia river and lake, P. Q., also from Afton Lake, near Mount Stewart, Prince Edward Island (Cox 1899, as *Notemigonus chrysoleucas*).

41. **Notropis jordani** Eigenmann & Eigenmann.

Saskatchewan River at Medicine Hat (Eigenmann and Eigenmann 1893, as *Notropis albeolus*, type, and as *Notropis jordani*, type).

42. **Notropis cayuga** Meek.

Qu'Appelle River at Qu'Appelle (Eigenmann and Eigenmann 1893, as *Notropis heterolepis*, type), and Qu'Appelle (Thompson 1898).

43. **Notropis blennius** (Girard). Straw-colored Minnow.

Assiniboine River at Brandon, and Qu'Appelle River at Qu'Appelle (Eigenmann and Eigenmann 1893, as *Notropus reticulatus*, type); Red River of the North at Winnipeg (Eigenmann 1894, as *Notropis deliciosus*); Lake of the Woods at Garden Island and at Oak Island (Woolman, coll., 1894), and Winnipeg, Brandon and Fort Qu'Appelle (Thompson 1898).

44. **Notropis hudsonius selene** (Jordan). Shiner.

Lake of the Woods at mouth of Rainy River and at Asmus Point (Woolman, coll., 1894); Winnipeg, Brandon, Fort Qu'Appelle and Medicine Hat (Thompson 1898); and Hayes River 15 miles above York Factory (Preble, coll., 1900).

45. **Notropis cornutus** (Mitchill). Redfin.

Small lake, Rouge River drainage, Montcalm District, Quebec (D'Urban 1859, as *Leuciscus frontalis*); River St. Lawrence and "nearly all the rivers and streams running into it" (Fortin 1865, as *Leuciscus vittatus*); Montreal (Günther 1868, as *Leuciscus cornutus*); Assiniboine River at Brandon (Eigenmann 1894, as *Notropis megalops*); "All swift and limpid streams in New Brunswick (Cox 1895a); Brandon (Thompson 1898); Gull and Muskoka lakes (Meek 1899); in Province of Quebec in brooks emptying into the Grand Casapedia near its mouth (Cox 1899, as *Leuciscus cornutus*); Glasier Lake, New Brunswick (Kendall, coll., 1901); St. Lawrence River near Ogdensburg (Evermann and Kendall 1897); and Don River near Toronto (Nash 1906).

46. **Notropis cornutus frontalis** (Agassiz).

Montreal River on the eastern shore of Lake Superior (Agassiz 1850, as *Leuciscus frontalis*, type).

47. **Notropis muskoka** Meek.

Gull Lake (Meek 1899, type).

48. **Notropis jejunus** (Forbes).

Red River of the North at Winnipeg, Assiniboine River at Brandon and Saskatchewan River at Medicine Hat (Eigenmann 1894); Lake of

the Woods at Garden Island, at Oak Island, at mouth of Rainy River and at Asmus Point (Woolman, coll., 1894); and Winnipeg at Brandon (Thompson 1898).

49. **Notropis scopifer** Eigenmann & Eigenmann.

Red River of the North at Winnipeg, Assiniboine River at Brandon, Qu'Appelle River at Qu'Appelle, and Saskatchewan River at Medicine Hat (Eigenmann and Eigenmann 1893, type).

50. **Notropis atherinoides** (Rafinesque).

Pic River, northern shore of Lake Superior (Agassiz 1850, as *Alburnus rubellus*, type); Red River of the North at Winnipeg and Saskatchewan River at Medicine Hat (Eigenmann 1894); Lake of the Woods at Oak Island (Woolman, coll., 1894); and Winnipeg (Thompson 1898); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902).

51. **Notropis rubrifrons** (Cope).

Lake of the Woods at Asmus Point and at mouth of Rapid River (Woolman, Coll., 1894); St. Lawrence River below Ogdensburg (Evermann and Kendall 1902).

52. **Rhinichthys cataractæ** (Cuvier & Valenciennes). Long-nosed Dace.

Montreal (Günther 1868, as *Rhinichthys marmoratus*); Lake Metapedia, P. Q., and generally throughout New Brunswick (Cox 1899).

53. **Rhinichthys cataractæ dulcis** (Girard).

Swift Current River at Swift Current, Saskatchewan River at Medicine Hat, Bow River at Calgary, Hot Sulphur Springs at Banff, and Elbow River at Calgary (Eigenmann 1894).

54. **Rhinichthys atronasus** (Mitchill). Black-nosed Dace.

St. Lawrence River near Ogdensburg (Evermann and Kendall 1902); "In almost every brook in New Brunswick" (Cox 1895a); Cascapedia and Bonaventure rivers, P. Q. (Cox 1899); and Don River near Toronto (Nash 1906).

55. **Agosia falcata** Eigenmann & Eigenmann.

Shushwap Lake, Sicamous, B. C. (Eigenmann and Eigenmann 1893, as *Agosia shushwap*, type).

56. **Hybopsis storerianus** (Kirtland).

Red River of the North at Winnipeg (Eigenmann 1894); and Winnipeg (Thompson 1898).

57. **Couesius dissimilis** (Girard).

Swift Current River at Swift Current, Saskatchewan River at Medicine Hat, and Bow and Elbow rivers at Calgary (Eigenmann 1894).

58. **Couesius plumbeus** (Agassiz).

Upper St. John and Madawaska rivers and Squatook and Temiscouata lakes, Spruce Lake, St. John County, N. B., and Water-works Lake, some

miles from St. John, N. B., Loch Lomond, St. John County, N. B. (Cox 1895, as *Couesius prosthemi*); Metapedia river and lake, Grand and Little Cascapedia, Nouvelle (New Carlisle) lakes and in the basin of the Grand Pabos (Lac à Canard and Murphy Lake, P. Q. (Cox 1899, as *Ceratichthys plumbeus*); Glasier Lake, New Brunswick (Kendall, coll., 1901); Grant or St. Croix Lake (Preble, coll., 1903-4).

59. **Couesius greeni** Jordan.

Stuart Lake, B. C. (Jordan 1894, type); Fort St. James, B. C. (Cox 1895); Kootenay Lake, at Nelson, B. C. (Evermann, coll. 1898).

60. **Platygobio gracilis** (Richardson). Flat-headed Minnow.

Saskatchewan River at Carlton House (Richardson 1836, as *Cyprinus (Lenciscus) gracilis*, type); Assiniboine River at Brandon and Saskatchewan River at Medicine Hat (Eigenmann 1894); Brandon (Thompson 1898); and Athabasca River at Grand Rapids and Mackenzie River at Forts Simpson and Good Hope (Preble, coll., 1903-4).

61. **Exoglossum maxillingua** (Le Sueur). Cut-lip Minnow.

St. Lawrence River near Ogdensburg (Evermann and Kendall 1902).

FAMILY ANGUILLIDÆ.

62. **Anguilla chrysoptera** Rafinesque. Common Eel.

Streams and lakes of Greenland (Fabricius 1780, as *Muræna anguilla*); River St. Lawrence and several of its tributaries (Fortin 1862, as *Muræna anguilla*); "taken in every situation it can reach, does not occur above the Grand Falls, St. John River; albinos are sometimes met with" (Cox 1895a, as *Anguilla rostrata*); Basin of River St. Lawrence, Quebec; Montreal (Montpetit 1897, as *Anguilla vulgaris* and *Anguilla muræna*); stream in island of Anticosti (Schmitt 1904).

FAMILY HIODONTIDÆ.

63. **Hiodon alosoides** (Rafinesque). "La Quesche"; Naccaysh."

Saskatchewan River at Cumberland House (Richardson 1836, as *Hiodon chrysopsis*, type); Saskatchewan valley (Wright 1892); Red River of the North at Winnipeg and Assiniboine River at Brandon (Eigenmann 1894); "Abundant in all the rivers of the plains, Swan Lake; Assiniboine River at Portage la Prairie and upper Assiniboine River, Brandon, and Red River of the North at Winnipeg" (Thompson 1898).

64. **Hiodon tergisus** Le Sueur. Moon-eye.

Saskatchewan River at Cumberland House (Richardson 1823, as *Hiodon clodalis*); Richelieu River (Richardson 1836, as *Cyprinus (Abramis?) smithii*, type); River St. Lawrence (Fortin 1864); Red River of the North at Winnipeg and Assiniboine River at Brandon (Eigenmann 1894); Lake of the Woods at mouth of Rainy River at Stevens Point (Woolman, coll.,

1894); River St. Lawrence; Lake St. Peter and in the Ottawa (Montpetit 1897); Winnipeg and Brandon (Thompson 1898).

FAMILY CLUPEIDÆ.

65. **Alosa sapidissima** (Wilson). Common Shad.

“Miramichi River shad and those ascending the St. John, resort for spawning to Darlings Lake (Kennebecasis), Douglas Lake (Nerepis), the Washademoire, Oenabag and Grand Lakes and Oromocto River” (Perley 1852); River St. Lawrence (Fortin 1862, as *Clupea alosa*); St. Lawrence River (Goode 1884, as *Clupea sapidissima*); and River St. Lawrence to Montreal (Montpetit 1897, as *Clupea sapidissima*); Bay of Fundy and Miramichi Bay and occasionally in Bai des Chaleurs (Cox 1895a).

66. **Clupea harengus** Linnæus. Common Herring.

South shore of River St. Lawrence (Fortin 1862, as *Clupea sardina*).

67. **Pomolobus pseudoharengus** (Wilson). Alewife; “Gaspereau.”

St. Lawrence River below Ogdensburg (Evermann and Kendall 1902).

FAMILY SALMONIDÆ.

68. **Coregonus coulteri** Eigenmann & Eigenmann. Coulter’s Whitefish.

Kicking Horse River at Field (type locality) and Golden (Eigenmann and Eigenmann, 1892, type).

69. **Coregonus williamsoni** Girard. Williamson’s Whitefish.

Columbia River at Golden and Revelstoke, Bow River at Calgary and Banff, and Shushwap Lake at Sicamous (Eigenmann 1894); and Kootenay Lake at Nelson, B. C. (Evermann, coll., 1898).

70. **Coregonus kennicotti** Milner. Kennicott’s Whitefish.

Hudson Bay (Pennant 1788, as *salmo lavaretus*); Fort Good Hope (Milner 1883, type), and Delta of the Mackenzie (Gilbert 1894); Barter Island near mouth of Mackenzie River (Scofield 1899); Lake Bennett (Evermann and Goldsborough 1907).

71. **Coregonus richardsoni** Günther. Richardson’s Whitefish.

Arctic North America (Günther 1866, type); Mackenzie River basin (Preble, coll., 1903–4).

72. **Coregonus quadrilateralis** Richardson. Round Whitefish.

Fort Enterprise (type locality) and in the Arctic Sea, also Hudson Bay and about Fort Churchill (Richardson 1823); Bathurst Inlet and Great Bear Lake (Richardson 1836, as *Salmo (Coregonus) quadrilateralis*); St. John above the Grand Falls and in many of the lakes drained by its tributaries (Cox 1895); Madawaska and Upper St. John rivers, N. B. (Cox 1895a); Glasier Lake, New Brunswick (Kendall, coll., 1901); Lake Bennett, Lake Atlin, and Caribou Crossing (Evermann and Goldsborough 1907).

73. ***Coregonus clupeiformis*** (Mitchill). Common Whitefish; "Poisson blanche."

Coppermine River and Bathurst Inlet (Richardson 1823, as *Coregonus albus*); Pine Island Lake and Lake Huron (Richardson 1836, as *Salmo (Coregonus) albus*); along the northern shores of Lake Superior (Agassiz 1850, as *Coregonus lator*, type); Albany River (Sir John Richardson, coll., Günther 1866, as *Coregonus albus*); Lake Mistassini (Low 1896); Hamilton River above the Great Falls and Grande Décharge, Lake St. John (Chambers 1896); and Lakes Manitoba and Winnipegosis (Thompson 1898).

74. ***Coregonus nelsoni*** Bean. Nelson's Whitefish.

Lake Bennett, British Columbia (Evermann and Goldsborough 1907).

75. ***Coregonus labradoricus*** Richardson. Labrador Whitefish; "Musquaw River Whitefish."

Musquaw River (Richardson 1836, as *Salmo (Coregonus) labradoricus*, type); ? Saskatchewan River (Richardson, coll., Cuvier & Valenciennes, 1848, as *Coregonus angusticeps*); Lake Temiscouata and Madawaska River, N. B., also Eagle Lakes at the head of Fish River and in St. Francis Lakes, Tuladi River and Grand Lake, N. B. (Perley 1852, as *Coregonus albus*); River St. Lawrence and some rivers flowing into it (Fortin 1863, as *Coregonus albus*); Madawaska, Lower St. John, Upper Restigouche rivers and Eagle, St. Francis and Grand Lakes, N. B. (Cox 1895a); Lake of the Woods (Thompson 1898); Restigouche and Metapedia rivers, P. Q. (Cox 1899); Glasier Lake, St. Francis River, New Brunswick (Kendall 1903).

76. ***Argyrosomus artedi*** (Le Sueur). Common Lake Herring.

Lake Erie and Lewistown, Upper Canada (Le Sueur 1818, as *Coregonus artedi*, type); Lake Huron at Penetanguishene (Richardson 1836, as *Salmo (Coregonus) harangus*, type); Pic River and along the northern shores of Lake Superior (Agassiz 1850); Moose Factory (Bean 1881, as *Coregonus artedi*); and Thirty-one Mile Lake, Quebec, sixty miles north of Ottawa (Gen. D. D. Wylie, coll., Shields 1897).

77. ***Argyrosomus pusillus*** (Bean). Least Whitefish.

Barter Island near the mouth of the Mackenzie River (Scofield 1899).

78. ***Argyrosomus lucidus*** (Richardson). Great Bear Lake Herring.

Great Bear Lake (Richardson 1836, as *Salmo (Coregonus) lucidus*, type); Great Bear Lake River (Gilbert 1894, as *Coregonus lucidus*); Hershel Island (Scofield 1899); and Arctic Red River (Preble, coll., 1903-4).

79. ***Argyrosomus tullibee*** (Richardson). Tullibee.

Saskatchewan River at Cumberland House, Pine Island Lake, and Albany District, Hudson Bay (Richardson 1836, as *Salmo (Coregonus) tullibee*, type); and Albany River (Sir John Richardson, coll., Günther 1866, as *Coregonus tullibee*).

80. **Stenodus mackenzii** (Richardson). "Inconnu."

Mackenzie River and lakes and rivers flowing into it and also in Salt River (Richardson 1823, as *Salmo mackenzii*, type); Mackenzie River and Great Slave Lake (Richardson 1836, as *Salmo mackenzii* and Inconnu); and delta of the Mackenzie River (Gilbert 1894); mouth of Mackenzie River (Schofield 1899); headwaters of the Yukon River (Evermann and Goldsborough 1907).

81. **Oncorhynchus gorbuscha** (Walbaum). Humpback Salmon.

Seton Lake Hatchery (Babeck 1905).

82. **Oncorhynchus tshawytscha** (Walbaum).

Columbia River at Golden and Revelstoke, Thompson River at Kamloops and Fraser River at Mission (Eigenmann 1894); Skeena River and its tributaries, and Shushwap and Seton lakes and their tributaries (Babeck 1902).

83. **Oncorhynchus kisutch** (Walbaum). Coho Salmon.

Seton Lake, Shushwap Lake and its tributaries, Skeena River and its tributaries (Babeck 1902).

84. **Oncorhynchus nerka** (Walbaum). Sockeye Salmon.

Chiloweyuk Lake, near Fraser River (Dr. Kennerly, coll.); and Nehoiapitkwa River (Gibbs, coll., Suckley 1861a, as *Salmo kennerlyi*, type); Fraser River (Dr. Kennerly, coll., Suckley 1861a, as *Salmo warreni*, type); Fraser and Skagit rivers (Suckley 1861a, as *Salmo richardii*, type); Chiloweyuk Lake (North latitude 49°), near Fraser River, and Nicola, Francois, Fraser, Okanogan, Stuart and Shushwap lakes (Evermann 1897); Stuart and Nicola lakes, B. C. (Evermann and Meek 1898, small form); and Kootenay Lake near Nelson, B. C. (Evermann, coll., 1898, small form); Quesnel River and headwaters of Fraser River, Horsefly River, Seton and Anderson lakes, Birkenhead River, Lillooet Lake, Shushwap Lake and tributaries, Oweekagno Lake and its tributaries, Wannuck River, Skeena River and its tributaries (Babeck 1902).

85. **Salmo salar** Linnæus. Atlantic Salmon.

Lakes and rivers of Greenland (Fabricius 1780); Hudson Bay (Pennant 1788); Quebec (Richardson 1836); Shubenacadie River; Snake Lake, Halifax County, Nova Scotia; Bedford River, near Halifax; General Bridge River (Gilpin 1866); Loch Lomond and Mispick and Sagenay rivers (Adams 1873, as *Salmo gloveri*); St. Johns, Grand and Poekwock lakes and Salmon River, in Nova Scotia (Hallock 1873); St. Lawrence River (Hallock 1877); Lower St. Lawrence, Rimonski, Grand Metis, Sagenay rivers (Roosevelt 1884); St. Lawrence River (Goode 1884); Romaine, Little Esquimaux, Moisie, St. Augustine, Little Mecatina, Netaganau, Etamaniow, Coacoachoo, Olomonasheebo, Washecootai, Great and Little Musquarro, Kegashka, Goynish, Wabisipi, Great and Little Watshieshoo, Corneille, Romaine, Mingan, St. John, Magpie, Thunder, Sheldrake, Manitou, Margaret, Trinity, Laval and Little Bergeronnes rivers (Chambers 1896); "Abundant in the rivers of the St.

Lawrence and Atlantic coast flowing into Ungava Bay, and Stupart Bay, also in Koksoak River, but not in the rivers draining into Hudson Bay" (Low 1896); Loch Lomond, Sciff Lake and Musquash Lake, N. B. (Cox 1895, as Winnish); la Riviere Jupiter, Island of Anticosti (Schmitt 1904).

86. **Salmo ouananiche** (McCarthy). "Ouananiehe"; "Wananishe"; "Winmonish"; "Winnish," and many variants of the word.

Upper Saguenay River system and Lake St. John (Creighton 1892, as *Salmo salar*, variety *Sebago*); Saguenay River and Lake St. John (McCarthy 1894, as the Ouananiehe); Saguenay River (McCarthy in Jordan and Evermann 1896, as *Salmo salar ouananiche*, type); Lake St. John, branches of Hamilton River, lakes of the Goynish (especially Lake Victor), Wat-shu-shoo and Piastre-baie rivers, Peribonca, Lake Manouan, Koksoak River, lakes and river stretches of the upper part of George River (which flows into Ungava Bay), Lake Michikamow at the head of Northwest River (which flows into Hamilton Inlet), head of Romaine River and Natashquan River, Ashnanipi branch of Hamilton River, Grande Décharge, Lac à Jim, Lac Tscholagama, and Lac aux Rats (Chambers 1896).

87. **Salmo clarkii** (Richardson). Cutthroat Trout.

Kootenay River (Dr. Kennerly, coll., Suckley 1861, as *Salmo lewisi*); Bow and Elbow rivers at Calgary, Bow and Vermillion rivers at Banff, Griffin and Shushwap lakes and Thompson River at Kamloops (Eigenmann 1894), as *Salmo icideus masoni*).

88. **Salmo kamloops** Jordan. Kamloops Trout.

Kamloops Lake, B. C. (Jordan, type, in Jordan and Evermann 1896-1900); Kootenay Lake (Jordan and Snyder MS. 1907).

89. **Cristivomer namaycush** (Walbaum). Great Lakes Trout; "Touladi"; "Lunge"; Gray Trout; Mackinaw Trout; "Queue fourchée."

Hudson Bay (Pennant 1788, as *Namaycush*); Hudson Bay (Walbaum 1792 as *Salmo namaycush*, type); Lake Huron and Winter Lake (Richardson 1836, as *Salmo namaycush*); Mingan River (Richardson 1836, as *Salmo hoodii*, type in part); northern shores of Lake Superior (Agassiz 1850, as *Salmo namaycush*); lakes at the sources of the St. Croix and St. John rivers and Lakes Toledi and Temiscouata (Adams 1873, as *Salmo confinis*); St. Francis Lakes; Lakes Matapediac, Miramichi, Temiscouata, Cheputnecticook and Loch Lomond (Lanman 1874, as *Salmo toma*); Conim Lake, British Columbia (Jordan 1888, as *Salvelinus namaycush*); from Bow and Elbow rivers at Calgary; Devils Lake, Bow and Vermillion rivers at Banff, Columbia River at Golden and Revelstoke (Eigenmann 1894, as *Salvelinus namaycush*); "in all the large lakes of New Brunswick except the river and lake systems between the Restigouche and St. John" (Cox 1895a, as *Salvelinus namaycush*); headwaters of the Fraser and Columbia rivers, streams of Vancouver Island and Lac des Neiges (Jordan and Evermann 1896); Lake Superior, Lake Metis, Lake St. John, Lake

Tschotagama, Lac à Jim, Lake Mistassini, Lac des Aigles, Lakes Kiskisink, Manouan, Nepigon, Pipwuakin, St. Charles, and Betsiamitz, Hamilton River above the Great Falls (Chambers 1896); "Very plentiful in all the larger lakes of the interior northward to Hudson Strait and also in the lake-expansions of the Hamilton River and Lake Michikaman" (Low 1896); Muskoka Lake (Meek 1899); Lake Atlin, Tagish Arm, Lake Bennett and Summit Lake (at White Pass) (Evermann and Goldsborough 1907).

90. **Cristivomer namaycush siscowet** (Agassiz). Siscowet.

At Michipicotin and everywhere along the northern shores of Lake Superior (Agassiz 1850, as *Salmo siscowet*, type).

91. **Salvelinus fontinalis** (Mitchill). Eastern Brook Trout; Speckled Trout.

Canada (Hamilton Smith in Griffith's Cuvier, 1834, as *Salmo Canadensis*, type); Fort Enterprise, Pine Island Lake (Richardson 1836 as *Salmo fontinalis*); Boothia Felix (Richardson 1836, as *Salmo hoodii*, type, in part); Lake Huron at Penetanguishene (Richardson 1836, as *Salmo fontinalis*); Red Bay, Labrador (Storer 1850, as *Salmo immaculatus*, type); small lakes and streams between Balsam and the one in the 11th Lot 3rd Range Montcalm, Trembling Lake, and Lake of the Three Mountains (D'Urban 1859, as *Salmo fontinalis*); Hudson Bay and vicinity (C. Drexler, coll.), Labrador (Elliot Coues, coll.) and Newfoundland (Theo. Gill, coll.), (Suckley 1861a, as *Salmo hudsonicus*, type); Digby Basin and Miramichi River (Gilpin 1866, as *Salmo fontinalis*); Cole Harbour and Musquoboit River (Gilpin 1866, as *Salmo canadensis*); St. Ignace Island, Lake Superior (Thompson 1883); Nepigon River, Ontario (Wright 1892, and many anglers and outing magazines); nearly every lake and stream in New Brunswick (Cox 1895a); "Abundant in many of the rivers and lakes of the Labrador Peninsula, on the Atlantic coast and Ungava Bay, particularly plentiful and of large size along these coasts, the mouth of every river swarms with trout during late summer and autumn," Koksoak, George, Romaine and Northwest rivers; Hamilton Inlet and James Bay (Low 1896); Grand Falls of the Hamilton, Oujatchouan River, Lac de la Belle Rivière, Lake Batiscan, Lac des Grandes Îles (or Lake Edward), Rivière aux Rats, River Jeannotte, Grand Lake, Jacques Cartier, Aleck, Aux Ecorces, Au Sable, Betsiamitz, Blanche, Chigobiche, de la Belle Rivière Aigles, Aulnaies, Habitants, Grande Décharge, Montmorenci, Little Peribonca, Otter, Oujatchouaniche, and Shipshaw rivers; Lac à l'Ours; Lakes Beauport, Epiphany, Mistassini, Pipmaukin, St. Charles and Round Lake; Noel Traverse, Lac à Régis, Lac à l'Épaule, Lac des Roches, Lac Sept Isles, Metabetchouan and La Belle Rivière (flowing into Lake St. John), the Pikauba (flowing into Lake Kenogami), the Chicoutimi, À Mars and Ha Ha rivers (tributary to the Saguenay), the Malbaie (la grande rivière of St. Ann de Beaupré), the Montmorenci, the Jacques Cartier, the St. Anne (de la Perade), Nepigon River, Teschotagama

Manouan and Lac à Jim (Chambers 1896); Gessier and Bear lakes, N.B. (Kendall, coll., 1901); La Rivière aux Canards, Anticosti Island (Schmitt 1904).

92. **Salvelinus malma** (Walbaum). Dolly Varden Trout; Western Charr.

Kootenay River (Suckley 1861a, as *Salmo Parkei*, type), and South Saskatchewan River (Jordan 1888); Herschel Island (Scofield 1899); Seton Lake, B. C. (Babeock 1902, as Dolly Varden Trout).

93. **Salvelinus alpinus alipes** (Richardson). Greenland Charr.

Lakes and rivers of Greenland (Fabricius 1780, as *Salmo alpinus*); Lakes in Prince Regents Inlet (Richardson 1836, as *Salmo alipes*, type, and as *Salmo nitidus*, type).

94. **Salvelinus alpinus stagnalis** (Fabricius).

Mountain streams of Greenland (Fabricius 1780, as *Salmo stagnalis*); type, and as *Salmo rivalis*, type); Greenland (Pennant 1788, as *Salmo stagnalis*); Coppermine River (Richardson 1823, as *Salmo hearnii*, type), Regents Inlet and rivers of Boothia Felix (Richardson 1836, as *Salmo rossii*, type), and Bloody Fall, Coppermine River (Richardson 1836, as *Salmo hearnii*).

95. **Salvelinus marstoni** (Garman). Marston Trout; Red Canadian Trout.

Lac de Marbre, Quebec County, Quebec (Garman 1893, as *Salmo marstoni*, type); one of the lakes of the Laurentides Club in the Lake St. John district, Lac des Îles, some of the Rimouski series of lakes (Lac à Cassette), lake between Quebec and Lake St. John, Templeton in the Ottawa district (Chambers 1896); Lake Saecacomis and Red lakes (township of St. Alexis des Monts, Maskinonge County, Quebec) (John W. Titecomb, coll., 1901); Decalomes township, Quebec (specimens received by the U. S. National Museum in 1886 from Eugene Blackford); Lake Tourille, headwaters of St. Anne River, Province of Quebec (specimen received by U. S. National Museum in 1899 from Graham H. Harris); lake in Chernier township, Rimouski County, Province of Quebec (2 specimens received in 1896 by U. S. National Museum from Department of Crown Lands) (Evermann & Kendall 1902).

FAMILY THYMALLIDÆ.

96. **Thymallus signifer** (Richardson). Arctic Grayling; Alaska Grayling.

Clear rivers to the northward of Great Slave Lake (Richardson 1823, as *Coregonus signifer*, type); Little Winter River (Richardson 1823, as *Coregonus thymalloides*, type); Winter River and Great Bear Lake (Richardson 1836, as *Salmo (Thymallus) signifer*); Winter River (Richardson 1836, as *Salmo (Thymallus) thymalloides*); Fort Simpson, British America (Milner 1872-73); Mackenzie River near Fort Simpson (Gilbert 1894); Great Bear Lake at Fort Franklin (Preble, coll., 1903-4); Tagish Arm, Kilbourne Creek and outlet of Lake Bennett near Caribou Crossing, small

lake near Log Cabin between Caribou Crossing and Lake Bennett, Lake Bennett at Lake Bennett Station, Lake Atlin and Forty-mile Creek (Evermann and Goldsborough 1907).

FAMILY ARGENTINIDÆ.

97. **Thaleichthys pacificus** (Richardson). Eulachon.

Fraser and Nass rivers (Jordan & Gilbert 1881).

98. **Osmerus mordax** (Mitchill). Smelt.

River St. Lawrence as far as Quebec (Fortin 1862, as *Osmerus viridescens* and *Osmerus operlanus*); abounds in New Brunswick, being landlocked in many lakes (Cox 1895a); Quebec and Trois rivières (Montpetit 1897, as *Osmerus viridescens*); and mouth of Northwest River, Hamilton Inlet (Low 1896).

99. **Osmerus dentex** Steindachner.

Arctic Red River (Preble, coll., 1903-4).

FAMILY UMBRIDÆ.

100. **Umbra limi** (Kirtland). Mud Minnow.

Canada (Fortin 1865, as *Hydrargyra atricauda*); streams and little rivers of Gull Lake (Meek 1899); "on the ice in the marsh east of Toronto" (Nash 1906).

FAMILY ESOCIDÆ.

101. **Esox reticulatus** (Le Sueur). Common Eastern Pickerel.

River St. Lawrence (Fortin 1863); small stream near Baring, New Brunswick (Kendall 1894, as *Lucius reticulatus*); "Lower St. John and its affluents" (Cox 1895a); the Meduxnakik, a branch of the St. John River (introduced) (Cox 1899).

102. **Esox lucius** Linnaeus. Pike.

Hudson Bay (Pennant 1788, as *Pike*); Lake Huron (Richardson 1836); Lake Huron at Penetanguishene (Richardson 1836, as *Esox estor*); Northern shores of Lake Superior (Agassiz 1850, as *Esox boreus*, type); basin of River St. Lawrence (Montpetit 1897, as *Esox estor* and *Esox lucius*); Lakes Sugarbush, Bevin and Bark, and Rouge River (D'Urban 1859, as *Esox boreus*); River St. Lawrence (Fortin 1863, as *Esox estor*); St. Ignace Island, Lake Superior (Thomson 1883); St. Lawrence River (Hallock 1877); Grand Clute, Lake St. John and Peribonea (Creighton 1892); Red River of the North at Winnipeg, Assiniboine River at Brandon, White Mud River at Westbourne, Moose Jaw River at Moose Jaw, Swift Current River at Swift Current, Saskatchewan River at Medicine Hat (Eigenmann 1894); Hamilton River, Lac aux Brochets, Lakes Jim, Mistassini, Pipmaukin, St. John and Tschotagama, Big and Little Nekebau lakes, Obahtegooman, Ojebogoomon and adjacent waters, Rivière

an Pipe, Rivière au Cochon, Betsiamitz, Hamilton and Peribonca rivers (Chambers 1896); St. Lawrence River between New York and Ontario (Rathbun and Wakeham 1897, as *Pike*); from Quebec to Upper Ottawa and divisions of Richelieu, Chambly, Iberville, Chateauguay, Beauharnais, Trois Rivières, Berthier, Joliette, Montreal, Terrebonne, Deux-Montagnes, Ottawa, and Gatineau (Montpetit 1897); Lake Winnipeg, Little Saskatchewan, Winnipeg, Brandon, Westbourne (Thompson 1898); and Muskoka Lake (Meek 1899).

103. **Esox masquinongy** (Mitchill). Muskallunge.

St. Lawrence River at Thousand Island (Hallock 1877, as *Esox nobilior* and *Esox estor*); St. Lawrence River (Goode 1884, as *Esox nobilior*); Lakes Simcoe, Rice and Sengog (Wright 1892, as *Esox nobilior*); Quebec to Upper Ottawa River and Divisions of Richelieu, Chateauguay, and Beauharnais, Trois Rivières, Berthier and Joliette; Lake Deux-Montagnes and Lower Ottawa, Montreal, Upper Ottawa and Gatineau (Montpetit 1897, as *Esox nobilior*).

FAMILY PÆCILIIDÆ.

104. **Fundulus heteroclitus** (Linnæus).

Rivers, ponds and lakes of Anticosti Island (Schmitt 1904).

105. **Fundulus diaphanus** (Le Sueur). Gray-back Minnow.

French and Grand lakes, in Sunberry and Green counties and Belleisle and St. John rivers, N. B. (Cox 1895a); Hillsboro River and at Rustico, P. E. Island, also common in the Bonaventure, Grand Pabos, York and Dartmouth rivers, P. Q., and in the lower course of the St. John, N. B., and in lakes about the Bay of Fundy (Cox 1899); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902).

FAMILY GASTEROSTEIDÆ.

106. **Eucalia inconstans** Kirtland. Brook Stickleback.

Near Montreal (Dawson 1859, as *Gasterosteus gymnetes*, type); Qu'Appelle, Lacawana Creek at Regina, Swift Current River at Swift Current, Maple Creek at Maple Creek, Bow and Elbow rivers at Calgary (Eigenmann 1894); lower parts of St. John River (Cox 1895, as *Gasterosteus inconstans*); and Qu'Appelle (Thompson 1898).

107. **Pygosteus pungitius** (Linnæus). Nine-spined Stickleback.

Saskatchewan River at Cumberland House (Richardson 1823, as *Gasterosteus pungitius*); Saskatchewan River and Great Bear Lake (Richardson 1836, as *Gasterosteus concinnus*, type); Mouth of Nelson River (Robert Bell, coll., Bean 1881, as *Gasterosteus pungitius*); Qu'Appelle River at Qu'Appelle (Eigenmann 1894); Qu'Appelle River (Thompson 1898); and Inlet Great Bear Lake (Preble, coll., 1903-4).

108. **Gasterosteus aculeatus** Linnæus. Common Stickleback.

Streams everywhere (in Greenland) (Fabricius 1780); Greenland (Pennant 1788, as *Three-Spined Stickleback*); Hudson Bay (Pennant 1788, as *Gasterosteus aculeatus*); "In the estuaries of rivers and in those creeks to which the sea has access, also upper St. John, Madawaska and Restigouche rivers" (Cox 1895a).

109. **Gasterosteus aculeatus cuvieri** (Girard).

Bras d'Or and Red Bay, Labrador (Storer 1850, *Gasterosteus cuvieri*, type); tidal fresh-water spring, near Salmon River, Labrador (Packard 1891, as *Pygosteus cuvieri*); Streams, ponds and lakes of Anticosti Island (Schmitt 1904, as *Gasterosteus bispinosus*).

FAMILY PERCOPSIDÆ.

110. **Percopsis guttatus** Agassiz. Trout Perch.

Lake Superior at Fort William (Agassiz 1850, type); Moose Factory, Hudson Bay (Walton Hayden, coll., Bean 1881); mouth of Nelson River (Robert Bell, coll., Bean 1881); Red River of the North at Winnipeg, Assiniboine River at Brandon, Lacawana Creek at Regina, Swift Current River at Swift Current, Saskatchewan River at Medicine Hat (Eigenmann 1894); Lake of the Woods at Rat Portage, off Coney Island and at Stevens Point (Woolman, coll., 1894); Winnipeg Lake, Winnipeg, and Brandon (Thompson 1898); Hayes River 15 miles above York Factory (Preble, coll., 1900); and near mouth Missisquoi River (Carter, coll., 1907).

FAMILY CENTRARCHIDÆ.

111. **Pomoxis sparoides** (Lacépède). Calico Bass.

Lake of the Woods at mouth of Rainy River (Woolman, coll., 1894); "waters of Quebec, Deep-Cnt" and the Ottawa (Montpetit 1897, as *Pomoxys sparoides* and *Labrus sparoides*).

112. **Ambloplites rupestris** (Rafinesque). Rock Bass.

Lakes Huron, Ontario and Erie (Richardson 1836, as *Centrarchus wneus*); River St. Lawrence (Fortin 1864, as *Centrarchus wneus*).

113. **Eupomotis gibbosus** (Linnæus). Common Sunfish.

Lake Huron at Penetanguishene (Richardson 1836, as *Pomotis vulgaris*); Montreal (Fortin 1864, as *Pomotis vulgaris*); small stream near Baring, New Brunswick (Kendall 1894, as *Lepomis gibbosus*); Lower St. John River below Grand Falls, N. B. (Cox 1895a, as *Lepomus gibbosus*); and Gull and Muskoka lakes (Meek 1899).

114. **Micropterus dolomieu** Lacépède. Small-mouth Black Bass.

Lake Erie (Richardson 1836, as *Cichla fasciata*); Thousand Isles (Roosevelt 1884, as *Gristes nigricans*); River St. Lawrence between New York and Ontario (Rathbun and Wakeham 1897); introduced into Spruce Lake and other lacustrine waters of New Brunswick (Cox 1895a); Gull

and Muskoka lakes (Meek 1899); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902).

115. **Micropterus salmoides** (Lacépède). Large-mouth Black Bass.

Lake Huron at Penetanguishene (Richardson 1836, as *Perca nigricans*); upper St. Lawrence River (Goode 1884); and Red River of the North (Thompson 1898).

FAMILY PERCIDÆ.

116. **Stizostedion vitreum** (Mitchill). Walleyed Pike; "Doré"; "Pickerele."

Hudson Bay (Pennant 1788, as *Perca fluviatilis*); Saskatchewan River at Cumberland House (Richardson 1823, as *Perca fluviatilis* var.); Lake Huron at Penetanguishene (Richardson 1836, as *Lucio-perca americana*); Albany River (Sir John Richardson, coll., Günther 1859, as *Lucioperca americana*); Montreal and lower St. Lawrence (Fortin 1864, as *Lucioperca americana*); St. Ignace Island, Lake Superior (Thomson 1883); Moose Factory, Hudson Bay (Walton Hayden, coll., Bean 1881); Lake St. John waters (Creighton 1892); Red River of the North at Winnipeg, Moose Jaw River at Moose Jaw, and Qu'Appelle River at Fort Qu'Appelle (Eigenmann 1894); Lake of the Woods at mouth of Rainy River, at Oak Island, at Asinus Point, and at Stevens Point (Woolman, coll., 1894); Big and Little Nekeban lakes, Obahtegooman, Ojebogoomon and adjacent waters, Mistassini, Wakwumitche, Lac à Jim and Lake Kiskisink (Chambers 1896); "Common in the southern rivers flowing into Lake St. John and to the westward, also in Rupert and East Main rivers, rare in Bet-siamitz River and not found east of this stream, being unknown to the Indians of Mingan, not found in the Big River or streams to the north of it, nor in the rivers of the eastern or northern watersheds" (Low 1896); Great Lakes, St. Lawrence Basin, and Milieu River, an affluent of Saint-Maurice (Montpetit 1897); Lakes Winnipeg, Manitoba and Winnipegosis, Deer, Red, Souris and Winnipeg rivers, mouth of Nelson River (Thompson 1898); Hayes River at York Factory (Preble, coll., 1900).

117. **Stizostedion canadense** (Smith). Sauger.

Canada (Hamilton Smith in Griffith's Cuvier, 1834, as *Lucioperca canadensis*, type); Quebec (Richardson 1836, as *Lucio-perca canadensis*), and River St. Lawrence (Fortin 1864, as *Lucio-perca canadense*).

118. **Stizostedion canadense griseum** De Kay. Gray Sauger.

Red River of the North at Winnipeg and Assiniboine River at Brandon (Eigenmann 1894); and Winnipeg and Brandon (Thompson 1898).

119. **Perca flavescens** (Mitchill). Yellow Perch.

Lake Huron at Penetanguishene (Richardson 1836); Quebec (Baird, coll., 1853); Lakes Sugarbush, Bevin, Bark and a small lake communicating with Devils River (D'Urban 1859); River St. Lawrence (Fortin 1863); Qu'Appelle River at Fort Qu'Appelle, and Assini-

boine River at Brandon (Eigenmann 1894); Lake of the Woods at Rat Portage off Coney Island, Stevens Point, mouth of Rainy River, Asmus Point, Garden Island, and Oak Island (Woolman, coll., 1894); "Common in almost all the inland waters" (New Brunswick) (Cox 1895a); Little and Big Nekebau, Obahtegooman, Ojebogoomon and adjacent waters (Chambers 1896); basin of River St. Lawrence (Montpetit 1897); River St. Lawrence between New York and Ontario (Rathbun and Wakeham 1897); Lake Winnipegosis and Swan Lake, and in the small lakes at the head of Red Deer Lake and at Fort Qu'Appelle and Brandon (Thompson 1898); Gull and Muskoka lakes (Meek 1899); Metapedia river and lake (Cox 1899, as *Perca americana*); Glasier and Bear lakes, New Brunswick (Kendall, coll., 1901); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902).

120. **Percina caprodes** (Rafinesque). Log Perch.

Small streams in Quebec (Baird, coll., 1853); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902).

121. **Hadropterus aspro** (Cope & Jordan).

Red River of the North at Winnipeg and Assiniboine at Brandon (Eigenmann 1894, as *Etheostoma aspro*); and Winnipeg and Brandon (Thompson 1898).

122. **Hadropterus guntheri** (Eigenmann & Eigenmann).

Red River of the north at Winnipeg (Eigenmann and Eigenmann 1892, as *Etheostoma guntheri*, type), and Winnipeg (Thompson 1898).

123. **Boleosoma nigrum** (Rafinesque). Johnny Darter.

Lake Superior at Fort William (Agassiz 1850, as *Boleosoma maculatum*, type); White Mud River at Westbourne, Assiniboine River at Brandon and Qu'Appelle (Eigenmann 1894, as *Etheostoma nigrum*); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902); Westbourne and in the Assiniboine River at Brandon (Thompson 1898); and Don River near Toronto (Nash 1906).

124. **Boleosoma nigrum olmstedii** (Storer).

Small streams of Quebec and at Montreal (Baird, coll., 1853); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902).

125. **Etheostoma boreale** (Jordan).

Montreal (T. J. Doran, coll., Jordan 1884, as *Pacilichthys boreale*, type); and Gull Lake (Meek 1899).

126. **Etheostoma iowæ** Jordan & Meek.

Swift Current River at Swift Current (Eigenmann 1894); Qu'Appelle River at Fort Qu'Appelle (Eigenmann 1894, as *Etheostoma quappelle*); and Fort Qu'Appelle (Thompson 1898).

127. **Etheostoma flabellare** Rafinesque. Fan-tailed Darter.

Small streams in Quebec (Baird, coll., 1853).

FAMILY SERRANIDÆ

128. **Roccus chrysops** (Rafinesque). White Bass.

Lower St. Lawrence River (Richardson 1836, as *Labrax notatus*); Lake Oromocto, one of the headwaters of the Magaguadavic River (Cox 1895a).

129. **Roccus lineatus** (Bloch). Striped Bass; Rock.

St. Lawrence as far as Quebec (Richardson 1836, as *Labrax notatus*); St. Lawrence River and some of its tributaries, and Sorel and Crane islands (Fortin 1863, as *Labrax lineatus*, and *Perca saxatilis*); St. Lawrence River to Quebec (Goode 1884); "Lakes and streams connected with the River St. Johns" (Cox 1895a, as *Roccus americanus*).

130. **Morone americana** (Gmelin). White Perch.

Lakes and streams connected with the River St. John (Cox 1895a, as *Roccus americanus*).

FAMILY SCLENIDÆ.

131. **Aplodinotus grunniens** Rafinesque. Freshwater Drum.

Lake Huron at Penetanguishene (Richardson 1836, as *Sciæna (Corvina) richardsoni*); Red River of the North at Winnipeg (Eigenmann 1894); Winnipeg (Thompson 1898).

FAMILY COTTIDÆ.

132. **Cottus asper** Richardson.

Fraser River at Mission, Shushwap Lake at Sicamous, Thompson River at Kamloops, and Griffin Lake (Eigenmann 1894).

133. **Cottus ictalops** (Rafinesque). Miller's Thumb; Blob.

North shore of Lake Superior (Agassiz 1850, as *Cottus richardsoni*, type); Mill Cove Stream, a tributary of the Miramichi River, N. B. (Cox 1895, and 1895a, as *Uranidea richardsoni*); and Green River, Madawaska, N. B. (Cox 1895a, as *Uranidea richardsoni*); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902); in all the Gaspé rivers, except those discharging into Gaspé Basin, P. Q., and in Miramichi and Restigouche rivers, N. B., a peculiar type from Bonaventure River, P. Q. (Cox 1899, as *Uranidea richardsoni*).

134. **Cottus onychus** Eigenmann & Eigenmann.

Bow River at Calgary (Eigenmann 1892, type).

135. **Cottus cognatus** Richardson.

Great Bear Lake, type locality (Richardson 1836); Lake Bennett (Evermann and Goldsborough 1907).

136. **Cottus philonips** Eigenmann & Eigenmann.

Kicking Horse River at Field (Eigenmann and Eigenmann 1893, type).

137. **Cottus spilotos** (Cope).

Moose Factory, Hudson Bay (Walton Hayden, coll., Bean 1881, as *Uranidea spilota*).

138. **Cottus franklini** (Agassiz).

North and east shore of Lake Superior (Agassiz 1850, as *Cottus franklini*, type).

139. **Cottus gracilis** (Heckel).

Restigouche, affluents of the Miramichi, Madawaska and Green rivers (Cox 1895, as *Uranidea boleoides*); Green River "Madawaska County" (Cox 1895a), and Green River, Victoria County, N. B. (Cox 1895a); Metapedia River and Nouvelle River, P. Q. (Cox 1899); Bear Lake, New Brunswick (Kendall, coll., 1901).

140. **Cottus formosa** (Girard).

Madawaska River above Edmonston, N. B. (Cox 1895).

141. **Oncocottus quadricornis** (Linnaeus).

York Factory (Preble, coll., 1900).

142. **Oncocottus hexacornis** (Richardson).

Mouth of Tree River near the Coppermine (Richardson 1836, as *Cottus hexacornis*, type); near York Factory, Hudson Bay (Robert Bell, coll., Bean 1881, as *Cottus labradoricus*).

143. **Triglopsis thompsoni** Girard.

In tide pools 75 miles north of York Factory (Preble, coll., 1900).

FAMILY BLENNIIDÆ.

144. **Lumpenus fabricii** (Cuvier & Valenciennes).

Greenland (Fabricius 1780, as *Blennius lumpenus* and Cuvier and Valenciennes 1836, as *Gunnellus fabricii*, type); Fort Churchill and Barren Grounds near Cape Eskimo, Hudson Bay (Preble, coll., 1900).

FAMILY GADIDÆ.

145. **Lota maculosa** (Le Sueur). Ling; Lawyer; "Burbot"; "Lush"; Freshwater Cusk.

Hudson Bay (Forster 1773, as *Gadus lota*); "every river and lake in the country" (Richardson 1823, as *Gadus lota*); Pine Island Lake (Richardson 1836, as *Gadus (Lota) maculosus*); Michipicotin, Lake Superior (Agassiz 1850); St. John and Oromocto rivers and Temiscouata, Eagle and St. Francis lakes (Perley 1852); River St. Lawrence (Fortin 1863, as *Lota inornata*; *Lota vulgaris*); Red River of the North at Winnipeg, Kicking Horse and Columbia rivers at Golden (Eigenmann 1894, as *Lota lota maculosa*); St. John River, Eagle and St. Francis lakes, Restigouche waters and Lake Utopia (Cox 1895a); common in all the deep lakes throughout the interior (of Labrador) (Low 1896); Lake St. John (Chambers 1896); basin of the aqueduct of Montreal and rivers flowing into Lake St. John (Montpetit 1897, as *Gadus lota*); Glasier Lake, New Brunswick (Kendall, coll., 1901); St. Lawrence River near Ogdensburg (Evermann and Kendall 1902); Seton Lake, B. C. (Babcock 1902, as *Ling*).

LIST OF NOMINAL SPECIES OF FRESHWATER FISHES ORIGINALLY DESCRIBED FROM CANADIAN WATERS.

An examination of the following tabular statement shows that 65 nominal species of freshwater fishes have been described from Canadian waters. The first of these was described by Forster in 1773 and the last by Meek in 1899.

Of these 65 nominal species only 29 are now regarded as valid.

ORIGINAL NAME.	PRESENT IDENTIFICATION.	TYPE LOCALITY.	DESCRIBER AND YEAR.
<i>Petromyzon borealis</i>	? <i>Lampetra aurea</i>	Great Slave Lake	Girard 1858
<i>Lepisosteus huronensis</i>	<i>Lepisosteus osseus</i>	Lake Huron at Penetanguishene	Richardson 1836
<i>Amia ocellieauda</i>	<i>Amia calva</i>	Lake Huron	Richardson 1836
<i>Synechoglanis beadlei</i>	<i>Ictalurus punctatus</i>	St. Catharines, Ontario	Gill 1858
<i>Silurus (Pimelodus) borealis</i>	<i>Ameiurus lacustris</i>	Pine Island Lake	Richardson 1836
<i>Silurus (Pimelodus) cenosus</i>	<i>Ameiurus natalis</i>	Lake Huron at Penetanguishene	Richardson 1836
<i>Cyprinus catostomus</i>	<i>Catostomus catostomus</i>	Hudson Bay	Forster 1773
<i>Cyprinus (Catostomus) forsterianus</i>	<i>Catostomus catostomus</i>	Lake Huron and Great Slave Lake	Richardson 1836
<i>Catostomus lesueurii</i>	<i>Moxostoma lesueurii</i>	Saskatchewan River at Carlton House	Richardson 1823
<i>Leuciscus canadensis</i>	<i>Semotilus bullaris</i>	St. Lawrence River at Montreal and Quebec	Fortin 1865
<i>Notropis albeolus</i>	<i>Notropis jordani</i>	Saskatchewan River at Medicine Hat	Eigenmann and Eigenmann 1893
<i>Notropis jordani</i>	<i>Notropis jordani</i>	Saskatchewan River at Medicine Hat	Eigenmann and Eigenmann 1893
<i>Notropis heterolepis</i>	<i>Notropis cayuga</i>	Qu'Appelle River at Qu'Appelle	Eigenmann and Eigenmann 1893
<i>Notropis reticulatus</i>	<i>Notropis blennioides</i>	Assiniboine River at Brandon and Qu'Appelle River at Qu'Appelle	Eigenmann and Eigenmann 1893
<i>Notropis muskoka</i>	<i>Notropis muskoka</i>	Gull Lake	Meek 1899
<i>Notropis scopifer</i>	<i>Notropis scopifer</i>	Red River of the North at Winnipeg, Assiniboine River at Brandon, Qu'Appelle River at Qu'Appelle and Saskatchewan River at Medicine Hat	Eigenmann and Eigenmann 1893
<i>Agosia shuswap</i>	<i>Agosia falcata</i>	Shuswap Lake at Sicamous, B. C.	Eigenmann and Eigenmann 1893
<i>Couesius greeni</i>	<i>Couesius greeni</i>	Stuart Lake, B. C.	Jordan 1894
<i>Cyprinus (Leuciscus) gracilis</i>	<i>Platygobis gracilis</i>	Saskatchewan River at Carlton House	Richardson 1836
<i>Hiodon chrysopsis</i>	<i>Hiodon alosoides</i>	Saskatchewan River at Cumberland House	Richardson 1836
<i>Cyprinus (Abramis?) smithii</i>	<i>Hiodon tergisus</i>	Richelieu River	Richardson 1836
<i>Salmo (Coregonus) quadrilateralis</i>	<i>Coregonus quadrilateralis</i>	Fort Enterprise	Richardson 1823
<i>Coregonus latior</i>	<i>Coregonus clupeiformis</i>	Along the northern shores of Lake Superior	Agassiz 1850
<i>Salmo (Coregonus) labradoricus</i>	<i>Coregonus labradoricus</i>	Musquaw River	Richardson 1836
<i>Coregonus angusticeps</i>	? <i>Coregonus labradoricus</i>	Saskatchewan River	Cuvier and Valenciennes 1848
<i>Coregonus artedii</i>	<i>Argyrosomus artedii</i>	Lewistown, Upper Canada and Lake Erie	Le Sueur 1818
<i>Salmo (Coregonus) harengus</i>	<i>Argyrosomus artedii</i>	Lake Huron at Penetanguishene	Richardson 1836

ORIGINAL NAME.	PRESENT IDENTIFICATION.	TYPE LOCALITY.	DESCRIBER AND YEAR.
Salmo (Coregonus) lucidus	Argyrosomus lucidus	Great Bear Lake	Richardson 1836
Salmo (Coregonus) tullibee	Argyrosomus tullibee	Saskatchewan River at Cumberland House, Pine Island Lake, and Albany District, Hudson Bay	Richardson 1836
Salmo mackenzii	Stenodus mackenzii	Mackenzie River	Richardson 1823
Salmo kemmerlyi	Oncorhynchus nerka	Chiloweyuk Lake near Fraser River	Suckley 1861
Salmo warreni	Oncorhynchus nerka	Fraser River	Suckley 1861
Salmo richardii	Oncorhynchus nerka	Fraser and Skagit rivers	Suckley 1861
Salmo salar ouananiche	Salmo ouananiche	Saguenay River	McCarthy 1896
Salmo namaycush	Cristivomer namaycush	Hudson Bay	Walbaum 1792
Salmo hoodii (part)	Cristivomer namaycush	Mingan River	Richardson 1836
Salmo siscowet	Cristivomer namaycush siscowet	At Michipicotin and everywhere along the northern shores of Lake Superior	Agassiz 1850
Salmo hoodii (part)	Salvelinus fontinalis	Boothia Felix	Richardson 1836
Salmo immaculatus	Salvelinus fontinalis	Red Bay, Labrador	Storer 1850
Salmo hudsonicus	Salvelinus fontinalis	Hudson Bay and vicinity; Labrador and Newfoundland	Suckley 1861
Salmo parkii	Salvelinus malma	Kootenay River	Suckley 1861
Salmo alipes	Salvelinus alpinus alipes	Lakes in Prince Regents Inlet	Richardson 1836
Salmo nitidus	Salvelinus alpinus alipes	Lakes in Prince Regents Inlet	Richardson 1836
Salmo stagnalis }	Salvelinus alpinus stagnalis	Mountain streams of Greenland	Fabricius 1780
Salmo rivalis }	Salvelinus alpinus stagnalis	Coppermine River	Richardson 1823
Salmo hearnii }	Salvelinus alpinus stagnalis	Coppermine River	Richardson 1823
Salmo rossii	Salvelinus alpinus stagnalis	Regents Inlet and rivers of Boothia Felix	Richardson 1836
Salmo marstoni	Salvelinus marstoni	Lac de Marbre, Ottawa County, Quebec	Garman 1893
Coregonus signifer	Thymallus signifer	Northward of Great Slave Lake	Richardson 1823
Coregonus thymalloides	Thymallus signifer	Little Winter River	Richardson 1823
Esox boreus	Esox lucius	Northern shores of Lake Superior	Agassiz 1850
Gasterosteus gymnetes	Eucalia inconstans	Near Montreal	Dawson 1859
Gasterosteus concinnus	Pygosteus pungitius	Saskatchewan River and Great Bear Lake	Richardson 1836
Gasterosteus cuvieri	Gasterosteus aculeatus cuvieri	Bras d'or and Red Bay, Labrador	Storer 1850
Percopsis guttatus	Percopsis guttatus	Lake Superior at Fort William	Agassiz 1850
Lucioperca canadensis	Stizostedion canadense	Canada	Smith 1834
Etherstoma guntheri	Hadropterus guntheri	Red River of the North at Winnipeg	Eigenmann and Eigenmann 1892
Boleosoma maculatum	Boleosoma nigrum	Lake Superior at Fort William	Agassiz 1850
Pœciliichthys boreale	Etheostoma boreale	Montreal	Jordan 1884
Cottus richardsoni	Cottus ictalops	North shore of Lake Superior	Agassiz 1850
Cottus cognatus	Cottus cognatus	Great Bear Lake	Richardson 1836
Cottus onychus	Cottus onychus	Bow River at Calgary	Eigenmann and Eigenmann 1892
Cottus philonips	Cottus philonips	Kicking Horse River at Field	Eigenmann and Eigenmann 1893
Uranidia franklini	Cottus franklini	North and east shore of Lake Superior	Agassiz 1850
Cottus hexacornis	Oucocottus hexacornis	Mouth of Tree River near the Coppermine	Richardson 1836

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